

IN THE CLAIMS

1. (Original) A method of forming a passive transmission line device in an integrated circuit, the method comprising:

5 Forming a recess insulating layer having a top surface and a bottom surface;

Forming a recess in said recess insulating layer, said recess having walls and a bottom surface;

Forming an enhancement layer covering said walls and said bottom surface of said recess, said enhancement layer having substantial magnetic permeability or substantial dielectric permittivity or both substantial magnetic permeability and substantial dielectric permittivity; and

10 Forming a conductive line over said enhancement layer in said recess, said conductive line having an upper surface that does not extend laterally outside said recess.

2. (Previously Presented) The method according to claim 1, wherein the upper surface of said conductive line is substantially coplanar with an upper surface of a first insulating layer.

15 3. (Original) The method according to claim 1, wherein the upper surface of said conductive line is substantially coplanar with an upper surface of said enhancement layer for portions of said enhancement layer that do not overlie said recess.

20 4. (Original) The method according to claim 1, further comprising forming a second enhancement layer that overlies said upper surface of said conductive line, said second enhancement layer having substantial magnetic permeability or substantial dielectric permittivity or both substantial magnetic permeability and substantial dielectric permittivity.

25 5. (Original) The method according to claim 1, wherein said recess insulating layer is formed on a first insulating layer having a top surface and a bottom surface.

6. (Original) The method according to claim 5, wherein said first insulating layer includes at least one via extending there through from the top surface of said first insulating layer to the bottom surface said first insulating layer, and a conductive plug fills said via.

7. (Original) The method according to claim 6, wherein said bottom surface of said recess includes a top surface of said conductive plug.

8. (Previously Presented) A method of fabricating at least one passive transmission line element,
5 comprising:

sequentially depositing an enhancement layer and a conductive layer material on a base structure that includes a bottom surface, a top surface, and at least one recess having a bottom recess surface and sidewalls, to provide a precursor structure having a top surface, said enhancement layer having substantial magnetic permeability or substantial dielectric permittivity or both substantial magnetic
10 permeability and substantial dielectric permittivity; and

etching over the entire top surface of said precursor structure to completely remove said conductive layer material from regions that do not overlie said at least one recess to provide at least one conductive line respectively disposed in said at least one recess, and each said at least one conductive line having a respective top surface that is disposed over and does not extend laterally beyond its
15 corresponding said at least one recess, each of said at least one passive transmission line element comprising a respective said at least one conductive line and a corresponding portion of said enhancement layer that overlies the corresponding at least one recess and that surrounds sides and bottom of the respective conductive line.

9. (Original) The method according to claim 8, wherein said etching includes chemical-mechanical polishing.

10. (Original) A method for fabricating a passive transmission line device in an integrated circuit, the method comprising:

25 providing an insulating layer;
using a damascene process to form said passive transmission line device in said insulating layer, said passive transmission line device comprising a conductive line and a first enhancement layer, said conductive line embedded in said first enhancement layer that covers the bottom surface and sidewalls of a recess formed in said insulating layer during the damascene process, said first enhancement layer
30 having substantial magnetic permeability or substantial dielectric permittivity or both substantial magnetic permeability and substantial dielectric permittivity.

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